=> d his

(FILE 'HOME' ENTERED AT 11:35:59 ON 14 JUL 2006)

FILE 'REGISTRY' ENTERED AT 11:36:09 ON 14 JUL 2006

L1 STRUCTURE UPLOADED

L2 STRUCTURE UPLOADED

L3 0 S L1 OR L2

L4 3 S L3 FULL

FILE 'CAPLUS' ENTERED AT 11:37:19 ON 14 JUL 2006

L5 1 S L4

=> d que 15 stat

L1 STR

Structure attributes must be viewed using STN Express query preparation. L2 STR

Structure attributes must be viewed using STN Express query preparation.

L4 3 SEA FILE=REGISTRY SSS FUL L1 OR L2

L5 1 SEA FILE=CAPLUS ABB=ON PLU=ON L4

=> d bib abs hitstr

APPLICANT ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN L5 AN 2003:991588 CAPLUS DN 140:43535 Water-soluble reactive disazo dyes, their production and their use TI Schwaiger, Guenther; Russ, Werner; Meier, Stefan IN Dystar Textilfarben G.m.b.H. & Co. Deutschland K.-G., Germany PA SO PCT Int. Appl., 34 pp. CODEN: PIXXD2 DTPatent LA German FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE -----_ _ _ _ -----PΙ WO 2003104335 A1 20031218 WO 2003-EP6027 20030610 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG DE 10225859 20040108 DE 2002-10225859 **A1** 20020611 CA 2489248 CA 2003-2489248 AA 20031218 20030610 AU 2003-236722 AU 2003236722 A1 20031222 20030610 BR 2003011754 Α 20050315 BR 2003-11754 20030610 EP 1516019 A1 20050323 EP 2003-735585 20030610 AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, R: IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK CN 1659240 20050824 CN 2003-813580 20030610 Α ZA 2004009480 Α 20051118 ZA 2004-9480 20041124 US 2005241079 A1 20051103 US 2004-517548 20041208 PRAI DE 2002-10225859 Α 20020611 WO 2003-EP6027 W 20030610 MARPAT 140:43535 OS

$$\begin{array}{c|c} & & & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & \\ & & \\ &$$

GI

AB The invention relates to azo dye copper complexes (I; M = H, alkali metal, ammonium, alkaline earth metal/2; R1 = H, C1-4-alkyl; R2 = fiber-reactive group; Z = vinyl or potential vinyl; v = 0,1) and their manufacture and use for coloring or printing fibrous materials. I have show fast blue shades. In an example, 4-(2-sulfatoethylsulfonyl)-2-amino-6-phenolsulfonic acid→2-amino-5-hydroxy-7-naphthalenesulfonic acid was prepared, diazotized, and coupled with 1-acetamido-3,6-disulfo-8-naphthol. The resulting disazo dye was treated with copper sulfate pentahydrate to give

Ι

Page 3 10/517,548

a deep blue dye (λmax 587 nm) for cotton.

IT 634897-94-2P

> RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(blue dye; production of water-soluble reactive disazo dyes and their use)

RN

634897-94-2 CAPLUS Cuprate(5-), [5-(acetylamino)-4-hydroxy-3-[[5-(hydroxy-κ0)-6-[[2-CN (hydroxy-κ0) -3-sulfo-5-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azoκN1]-7-sulfo-2-naphthalenyl]azo]-2,7-naphthalenedisulfonato(7-)]-, pentahydrogen (9CI) (CA INDEX NAME)

●5 H+

PAGE 1-B

 $-CH_2-CH_2-O-SO_3-$

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

("RUSS WERNER"/AU OR "RUSS
BERT"/AU OR "RUSS WERNER HUBERT
("SCHWAIGER GUENTHER"/AU OR
"MEIER STEFAN"/AU
L6 OR L7 OR L8
L9 AND DISAZO AND COPPER

=> d 1-2 bib abs

10/517,548

Page 5

ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN L10 AN 2003:991588 CAPLUS DN 140:43535 Water-soluble reactive disazo dyes, their production and their ΤI Schwaiger, Guenther; Russ, Werner; Meier, IN Stefan PA Dystar Textilfarben G.m.b.H. & Co. Deutschland K.-G., Germany SO PCT Int. Appl., 34 pp. CODEN: PIXXD2 DT Patent LA German FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ----ΡI WO 2003104335 **A**1 20031218 WO 2003-EP6027 20030610

PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG DE 10225859 **A1** 20040108 DE 2002-10225859 20020611 CA 2489248 AA 20031218 CA 2003-2489248 20030610 AU 2003236722 **A1** 20031222 AU 2003-236722 20030610 BR 2003011754 Α 20050315 BR 2003-11754 20030610 EP 1516019 A1 20050323 EP 2003-735585 20030610 AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK CN 1659240 Α 20050824 CN 2003-813580 20030610 ZA 2004009480 Α 20051118 ZA 2004-9480 20041124 US 2004-517548 US 2005241079 A1 20051103 20041208 PRAI DE 2002-10225859 Α 20020611 WO 2003-EP6027 W 20030610 OS MARPAT 140:43535 GI

$$\begin{array}{c|c} & & & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & \\ &$$

AB The invention relates to azo dye copper complexes (I; M = H, alkali metal, ammonium, alkaline earth metal/2; R1 = H, C1-4-alkyl; R2 = fiber-reactive group; Z = vinyl or potential vinyl; v = 0,1) and their manufacture and use for coloring or printing fibrous materials. I have show fast blue shades. In an example, 4-(2-sulfatoethylsulfonyl)-2-amino-6-phenolsulfonic acid→2-amino-5-hydroxy-7-naphthalenesulfonic acid was prepared, diazotized, and coupled with 1-acetamido-3,6-disulfo-8-naphthol. The resulting disazo dye was treated with

Ι

copper sulfate pentahydrate to give a deep blue dye (λ max 587 nm) for cotton. RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
- AN 1998:219868 CAPLUS
- DN 128:271649
- TI Mixtures of blue-coloring fiber-reactive dyes and their use for coloring hydroxy and/or carboxylic amide group-containing fiber materials
- IN Russ, Werner Hubert; Von der Eltz, Andreas; Groebel, Bengt-Thomas; Negri, Daniele
- PA DyStar Textilfarben G.m.b.H. und Co. Deutschland K.-G., Germany
- SO Ger. Offen., 20 pp.
- CODEN: GWXXBX
- DT Patent
- LA German
- FAN. CNT 1

KIND	DATE	APPLICATION NO.	DATE
A1	19980402	DE 1996-19640203	19960930
A2	19980401	EP 1997-116517	19970923
A3	19980909		
B1	20001227		
H, DE, DI	K, ES, FR,	GB, GR, IT, LI, LU, NL,	SE, MC, PT,
E	20010115	AT 1997-116517	19970923
B1	20010109	US 1997-936822	19970925
A2	19990216	JP 1997-264528	19970929
A	19960930		
	A1 A2 A3 B1 CH, DE, DE E B1 A2 A	A1 19980402 A2 19980401 A3 19980909 B1 20001227 CH, DE, DK, ES, FR, E 20010115 B1 20010109 A2 19990216 A 19960930	A1 19980402 DE 1996-19640203 A2 19980401 EP 1997-116517 A3 19980909 B1 20001227 CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, E 20010115 AT 1997-116517 B1 20010109 US 1997-936822 A2 19990216 JP 1997-264528 A 19960930

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Dye mixts. with good ability to dye the title fibers deep blue shades in a trichromic dyeing process contain copper complexes I [M = H, Li, Na or K; A = Q1, Q2, or CONHR7; R0 = H or Cl; R = H, C1-4 alkyl, sulfo, carboxy, C2-5 alkanoyl, or SO2Y; R5 = H, (substituted) C1-4 alkyl, (substituted) Ph; R6 = H, C1-4 alkyl, (CH2)nSO2Y, (CH2)nC6H4SO2Y, or (CH2)pB(CH2)qSO2Y; B = O or NH; X = CO2, O, or SO3-; Y = vinyl, β -chloroethyl, β -thiosulfatoethyl, or β -sulfatoethyl; R7 = H, C1-4 alkyl, (CH2)nSO2Y, or (CH2)nC6H4SO2Y; n = 2 or 3; m = 0 or 1; p, q = 2-4], disazo compds. II (M, Y = same as in I; R1-4 = H, Me, Et, MeO, or EtO), and azo compds. III (M, Y, R3, R4 = same as in II).

=> => d que 112 stat L1 STR

$$SO_3H$$
 SO_3H
 SO_3H
 SO_3H
 SO_3H

Structure attributes must be viewed using STN Express query preparation. L12 $\,$ 1 SEA FILE=MARPAT SSS FUL L1

100.0% PROCESSED

215 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

=> d 112

ANSWER 1 OF 1 MARPAT COPYRIGHT 2006 ACS on STN L12 AN 106:103809 MARPAT Reactive disazo metal complex dyes TI Jaeger, Horst IN Bayer A.-G., Fed. Rep. Ger. PA Ger. Offen., 31 pp. SO CODEN: GWXXBX DT Patent LA German FAN.CNT 1 APPLICATION NO. PATENT NO. DATE DATE KIND ---------PΙ DE 1985-3519551 19850531 DE 3519551 **A1** 19861204 EP 1986-106872 19860521 EP 203505 **A1** 19861203 EP 203505 **B**1 19890524 R: CH, DE, FR, GB, LI JP 1986-120339 19860527 JP 61278568 **A2** 19861209 JP 07049536 **B4** 19950531 PRAI DE 1985-3519551 19850531

OH
$$N=N$$

$$SO_{2}R^{3}$$

$$SO_{3}H$$

$$N=N-Z-Z^{1}-N-R^{2}$$

$$R$$

$$(SO_{3}H)_{n}$$

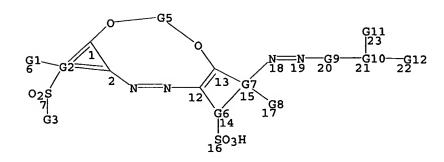
AB Cu, Co, and Cr complexes of reactive disazo dyes I (n = 0, 1; R = H, (un)substituted C1-4 alkyl; R1 = H, substituent; R2 = pyrimidine reactive component containing ≥1 F leaving under dyeing conditions; R3 = HC:CH2, CH2CH2R5; R5 = leaving group; Z = hydroxynaphthalene, pyrazole, or pyridone bridging group; Z1 = direct bond or divalent bridging group) are useful for dyeing and printing of HO group- or amide group-containing materials. Reaction of a dye mixture II (R4 = 71.8 mol% 2,5-dichloro-4-fluoropyrimidin-6-yl and 28.2 mol% 5,6-dichloro-2-fluoropyrimidin-4-yl groups) with CuSO4.5H2O gave the 1:1 Cu complex, which dyed wool in a navy blue shade.

AI DE 1985-3519551 19850531

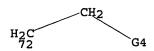
Ι

AI DE 1985-3519551 19850531 EP 1986-106872 19860521 JP 1986-120339 19860527 PRAI DE 1985-3519551 19850531

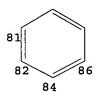
MSTR 1



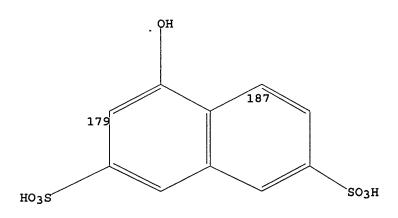
$$\begin{array}{c|c} C & CH \\ 24 & 27 \\ C & CH \end{array}$$



$$G7 = 81-13 82-14 84-17 86-18$$



$$G9 = 179-19 187-21$$



G10 = 237-22 234-20 237-23

Patent location:

claims

Note:

record may include structures from disclosure

Structure attributes must be viewed using STN Express query preparation. L14 $\,$ 1 SEA FILE=MARPAT SSS FUL L2

=> d 114

ANSWER 1 OF 1 MARPAT COPYRIGHT 2006 ACS on STN L14 AN 106:103809 MARPAT TI Reactive disazo metal complex dyes IN Jaeger, Horst Bayer A.-G., Fed. Rep. Ger. Ger. Offen., 31 pp. PA so CODEN: GWXXBX DT Patent LA German FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE ---------PΙ DE 3519551 **A1** 19861204 DE 1985-3519551 19850531 EP 203505 **A1** 19861203 EP 1986-106872 19860521 EP 203505 **B1** 19890524 R: CH, DE, FR, GB, LI JP 61278568 JP 1986-120339 19860527 A2 19861209 JP 07049536 **B4** 19950531 PRAI DE 1985-3519551 19850531

N=N-
$$z-z^{1}-N-R^{2}$$
SO₂R³ SO₃H (SO₃H)_n

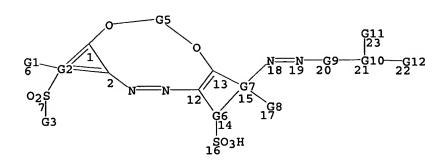
Cu, Co, and Cr complexes of reactive disazo dyes I (n = 0, 1; R = H, (un)substituted C1-4 alkyl; R1 = H, substituent; R2 = pyrimidine reactive component containing ≥1 F leaving under dyeing conditions; R3 = HC:CH2, CH2CH2R5; R5 = leaving group; Z = hydroxynaphthalene, pyrazole, or pyridone bridging group; Z1 = direct bond or divalent bridging group) are useful for dyeing and printing of HO group- or amide group-containing materials. Reaction of a dye mixture II (R4 = 71.8 mol% 2,5-dichloro-4-fluoropyrimidin-6-yl and 28.2 mol% 5,6-dichloro-2-fluoropyrimidin-4-yl groups) with CuSO4.5H2O gave the 1:1 Cu complex, which dyed wool in a navy blue shade.

AI DE 1985-3519551 19850531

Ι

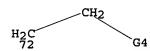
AI DE 1985-3519551 19850531 EP 1986-106872 19860521 JP 1986-120339 19860527 PRAI DE 1985-3519551 19850531

MSTR 1



G1 = SO3H G2 = 24-1 25-7 24-6 27-2

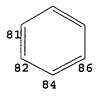
G3 = 72



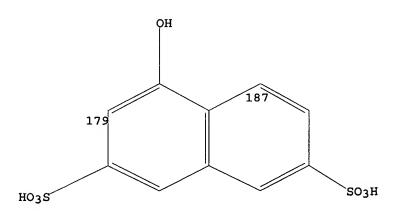
G5 = Cu G6 = 79-12 80-15 79-16

79 80H

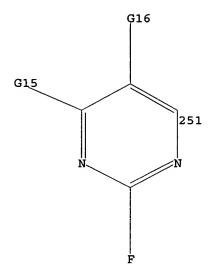
G7 = 81-13 82-14 84-17 86-18



G9 = 179-19 187-21



G10 = N G12 = 251



Patent location:

Note:

claims

record may include structures from disclosure

=> d his full

```
(FILE 'HOME' ENTERED AT 11:35:59 ON 14 JUL 2006)
```

```
FILE 'REGISTRY' ENTERED AT 11:36:09 ON 14 JUL 2006
Ll
                 STRUCTURE UPLOADED
L2
                 STRUCTURE UPLOADED
L3
               O SEA SSS SAM L1 OR L2
L4
               3 SEA SSS FUL L1 OR L2
     FILE 'CAPLUS' ENTERED AT 11:37:19 ON 14 JUL 2006
L5
               1 SEA ABB=ON PLU=ON L4
                 D QUE L5 STAT
                 D BIB ABS HITSTR
                 E RUSS WERNER/AU
L6
             133 SEA ABB=ON PLU=ON ("RUSS WERNER"/AU OR "RUSS WERNER H"/AU OR
                  "RUSS WERNER HUBERT"/AU OR "RUSS WERNER HUBERT DR"/AU)
                 E SCHWAIGER GUNTHER/AU
1.7
              31 SEA ABB=ON PLU=ON ("SCHWAIGER GUENTHER"/AU OR "SCHWAIGER
                 GUNTHER"/AU)
                 E MEIER STEFAN/AU
             39 SEA ABB=ON PLU=ON "MEIER STEFAN"/AU
187 SEA ABB=ON PLU=ON L6 OR L7 OR L8
2 SEA ABB=ON PLU=ON L9 AND DISAZO AND COPPER
L8
L9
L10
                 D QUE L10 STAT
                 D 1-2 BIB ABS
     FILE 'MARPAT' ENTERED AT 11:41:54 ON 14 JUL 2006
L11
               0 SEA SSS SAM L1
L12
               1 SEA SSS FUL L1
L13
               0 SEA SSS SAM L2
L14
               1 SEA SSS FUL L2
                 D QUE L12 STAT
                 D L12
                 D QUE L14
```

FILE HOME

FILE REGISTRY

D L14

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 13 JUL 2006 HIGHEST RN 892505-73-6 DICTIONARY FILE UPDATES: 13 JUL 2006 HIGHEST RN 892505-73-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE CAPLUS

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 14 Jul 2006 VOL 145 ISS 4 FILE LAST UPDATED: 13 Jul 2006 (20060713/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/infopolicy.html

FILE MARPAT

FILE CONTENT: 1961-PRESENT VOL 145 ISS 2 (20060707/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES (COVERAGE TO THESE DATES IS NOT COMPLETE):

US 2006118302 08 JUN 2006 DE 102004052060 27 APR 2006 EΡ 1650181 26 APR 2006 JP 2006111933 27 APR 2006 WO 2006053912 26 MAY 2006 2419093 19 APR 2006 GB FR 2877004 28 APR 2006 RU 2273632 10 APR 2006 CA 2518664 10 MAR 2006

Expanded G-group definition display now available.

New CAS Information Use Policies, enter HELP USAGETERMS for details.